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EXAMINER

MILIA, MARK R

ART UNIT

PAPER NUMBER

2625

NOTIFICATION DATE

DELIVERY MODE

05/17/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/730,935	Applicant(s) SUGIMOTO ET AL.	
	Examiner Mark R. Milia	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14, 16-35 and 37-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16-35 and 37-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's amendment was received on 2/2/10 and has been entered and made of record. Currently, claims 1-14, 16-35, and 37-40 are pending.

Response to Arguments

2. Applicant's arguments filed 2/2/10 have been fully considered but they are not persuasive.

The applicant asserts that the combination of Hohensee (US6,407,821) and Ackerman (US 2002/0067502) fails to disclose, and would not have rendered obvious, the claimed combination of features, including a receiving unit for successively receiving unconverted constituent data of a document file from an external device, and an image forming unit for forming images of the specific page before all of the unconverted constituent data of the document file have been received from the external device as recited in independent Claim 1, and similarly recited in independent Claims 8 and 16. The Examiner respectfully disagrees as the combination of Hohensee and Ackerman does disclose such features. Particularly, Hohensee shows a document to be printed produced by an application program on a client computer that is transmitted to a print server and then the document to be printed is sent to the printer in page units, the print

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server being an external device (column 4 line 61-column 5 line 39, column 6 lines 18-34, and column 11 lines 22-35). Ackerman describes partial page buffering and real time communication of print data to a print engine. Print data is actively received by the printer from an external input device **24** via input port **18** and a code sniffer buffer **33** analyzes the packets of print data, the print data being in an unconverted RAW format (paragraphs 38 and 41). Since the printer is actively receiving print data from the input device **24** and transferring print data to the print engine in real time it is quite obvious that printing is started prior to receiving the entire document from an external device. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the starting of printing of unconverted document data prior to receiving the entire document file, as described by Ackerman, with the system of Hohensee to provide direct IP printing while limiting the amount of memory necessary for execution thereby reducing cost and increasing processing speed.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1-3, 5-14, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hohensee (US 6,407,821) in view of Ackerman et al. (US 2002/0171856).

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Regarding claims 1, 8, and 16, Hohensee discloses an image forming device, program, and method for receiving a document file that has not been converted into print data and forming images of said document file, wherein said document file contains a plurality of pages and a plurality of unconverted objects for displaying a part or all of the contents of each page of the document and being capable of lining up in the file regardless of the order of said contents displayed in said document, comprising: a receiving unit for successively receiving unconverted constituent data of said document file from an external device (see Fig. 8 **814**, column 6 lines 18-34, and column 11 lines 22-35, data to be printed, such as a PDF document, is received in page units by a print controller from a client computer by way of a print server, both external devices), a storing unit for successively storing said objects contained in said unconverted constituent data received by said receiving unit (see Fig. 8 **820** and column 11 lines 36-52, memory **820** stored resource data, which is information associated with PDF objects), a judging unit for judging whether all objects necessary for displaying a specific page out of the plurality of objects included in the document file are stored in said storing unit (see column 9 line 26-column 10 lines 30, column 5 lines 36-50, column 6 lines 18-34, and column 8 lines 26-36, and column 11 lines 36-52, reference states that a PDF print object **600**, as shown in Fig. 6, is analyzed and resources such as fonts and images are referenced to equivalent resources associated with AFP protocol, which is used to print the data, and the resources are stored in a resource database **628**, the reference further states that the printer has a control unit and a memory, the memory is used to store resources data, such as fonts and images. A print server sends data in

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units of pages to the printer by means of an IPDS data stream in which PDF data is carried in containers, the containers having both formatting control data and printable data. Reference further states that two-way communication is carried out between the print server and the printer. The print server can query the printer to determine whether the printer already has a particular resource, such as a font, the printer responds as to whether it already has the resource and if the printer does not then the print server can retrieve the font from the resource database and send it to the printer memory. Each page is processed to determine if all the resources needed to print the page are present and once the resources are all present then the PDF data can be rasterized and merged with other print data, such as page body data, and printed out), and an image forming unit for forming images of said specific page of the document file having been received from the external device when it is judged by said judging unit that all objects necessary for displaying said specific page are stored in said storing unit regardless of whether the plurality of objects included in the document file have been stored in said storing unit or not (see Fig. 8 printer **224**, column 9 line 26-column 10 line 30, and column 11 lines 3-52, reference shows that duplicate resources are not stored and instead when a particular object is to be used on a plurality of pages the object is reused, each page is processed to determine if all the resources needed to print the page are present in the printer memory and once the resources are all present then the PDF data can be rasterized and merged with other print data, such as page body data, and printed out).

Hohensee does not disclose expressly an image forming unit for forming images of said specific page before all of the unconverted constituent data of the document file have been received at the receiving unit.

Ackerman discloses an image forming unit for forming images of said specific page before all of the unconverted constituent data of the document file have been received at the receiving unit (see paragraphs 37-38, 41, 43, 61, and 67, unconverted PostScript or PDF data is received by printer **10** and interpreted and buffered on a per page basis or even less than a full page basis, then the data is rasterized and communicated to the print engine in real time).

Hohensee & Ackerman are combinable because they are from the same field of endeavor, printing of document data such as PS or PDF.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the starting of printing of unconverted document data prior to receiving the entire document file, as described by Ackerman, with the system of Hohensee.

The suggestion/motivation for doing so would have been to provide direct IP printing while limiting the amount of memory necessary for execution thereby reducing cost and increasing processing speed.

Therefore, it would have been obvious to combine Ackerman with Hohensee to obtain the invention as specified in claims 1, 8, and 16.

Regarding claims 2 and 9, Hohensee further discloses wherein said specific page is a head page among pages whose images have not been formed (see Fig. 6 and column 2 lines 5-25).

Regarding claims 3 and 10, Hohensee further discloses a deleting unit for deleting a specific object which has already been stored in said storing unit (see Figs. 2 and 6 and column 9 lines 58-63).

Regarding claims 5 and 12, Hohensee further discloses wherein said specific object is an object which is not necessary for displaying other pages whose images have not been formed among objects used for displaying pages whose images have been formed (see Figs. 2 and 6 and column 9 lines 58-63).

Regarding claims 6 and 13, Hohensee further discloses a transmitting unit for transmitting a transmission request concerning the deleted object when an object for displaying said specific page is deleted from said storing unit by said deleting unit (see column 5 lines 36-51).

Regarding claims 7, 14, and 17, Hohensee further discloses wherein said document file is a PDF file (see Fig. 6 and column 9 lines 26-42).

5. Claims 4 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hohensee and Ackerman as applied to claims 3 and 10 above, and further in view of Abe (JP 09-174955), as cited on the IDS dated 6/20/07. Reference will be made to a computer translation which was furnished with a previous Office Action.

Hohensee and Ackerman do not disclose expressly a second judging unit for judging whether the amount of usage of said storing unit has exceeded a prescribed limit of usage, wherein said deleting unit is to delete said specific object from said storing unit when it is judged by said second judging unit that the amount of usage of said storing unit has exceeded the prescribed limit of usage.

Abe discloses a second judging unit for judging whether the amount of usage of said storing unit has exceeded a prescribed limit of usage, wherein said deleting unit is to delete said specific object from said storing unit when it is judged by said second judging unit that the amount of usage of said storing unit has exceeded the prescribed limit of usage (see paragraphs 13 and 14).

Hohensee, Ackerman & Abe are combinable because they are from the same field of endeavor, printing of document data.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the deletion of specific objects when a storage capacity threshold is reached, as described by Abe, with the system of Hohensee and Ackerman.

The suggestion/motivation for doing so would have been to allow systems with a relatively small memory capacity, which saves system costs, to be able to process and print PDF files.

Therefore, it would have been obvious to combine Abe with Hohensee and Ackerman to obtain the invention as specified in claims 4 and 11.

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6. Claims 18-19, 23-28, 32-35, 37, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hohensee (US 6,407,821) in view of Abe (JP 09-174955).

Regarding claims 18, 27, and 37, Hohensee discloses an image forming device, program, and method for receiving a document file that has not been converted into print data and forming images of said document file, wherein said document file contains unconverted objects for displaying a part or ail of the contents of each page of the document and being capable of lining up in the file regardless of the order of said contents displayed in said document, comprising: a receiving unit for successively receiving constituent data of said document file from an external device (see Fig. 8 **814**, column 6 lines 18-34, and column 11 lines 22-35, data to be printed, such as a PDF document, is received in page units by a print controller from a client computer by way of a print server, both external devices), a storing unit for successively storing said objects contained in said constituent before the constituent data is converted into print data (see Fig. 8 **820** and column 11 lines 36-52, memory **820** stored resource data, which is information associated with PDF objects), an image forming unit for forming images of said objects stored in said storing unit either singly or in combination of two or more of them of the document file having been received from the external device regardless of the order displayed in said document (see Fig. 8 printer **224**, column 9 line 26-column 10 line 30, and column 11 lines 3-52, reference shows that duplicate resources are not stored and instead when a particular object is to be used on a plurality of pages the object is reused, each page is processed to determine if all the resources needed to print the page are present in the printer memory and once the

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resources are all present then the PDF data can be rasterized and merged with other print data, such as page body data, and printed out.

Hohensee does not disclose expressly a judging unit for judging whether an amount of usage of said storing unit has exceeded a prescribed limit of usage, an image forming unit for forming images of said objects stored in said storing unit either singly or in combination of two or more of them regardless of the order displayed in said document when it is judged by said judging unit that the amount of usage of said storing unit has exceeded the prescribed limit of usage, an image forming unit for forming images of said specific page before all of the unconverted constituent data of the document file have been received at the receiving unit, and a deleting unit for deleting said object whose image has been formed by said image forming unit from said storing unit.

Abe discloses a judging unit for judging whether an amount of usage of said storing unit has exceeded a prescribed limit of usage (see paragraph 13), an image forming unit for forming images of said objects stored in said storing unit either singly or in combination of two or more of them regardless of the order displayed in said document when it is judged by said judging unit that the amount of usage of said storing unit has exceeded the prescribed limit of usage (see paragraphs 13-14), and a deleting unit for deleting said object whose image has been formed by said image forming unit from said storing unit (see paragraph 14).

Ackerman discloses an image forming unit for forming images of said specific page before all of the unconverted constituent data of the document file have been

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received at the receiving unit (see paragraphs 37-38, 41, 43, 61, and 67, unconverted PostScript or PDF data is received by printer **10** and interpreted and buffered on a per page basis or even less than a full page basis, then the data is rasterized and communicated to the print engine in real time).

Hohensee, Ackerman & Abe are combinable because they are from the same field of endeavor, printing of document data.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the deletion of specific objects when a storage capacity threshold is reached, as described by Abe, and the starting of printing of unconverted document data prior to receiving the entire document file, as described by Ackerman, with the system of Hohensee.

The suggestion/motivation for doing so would have been to provide direct IP printing while limiting the amount of memory necessary for execution thereby reducing cost and increasing processing speed to allow systems with a relatively small memory capacity to be able to process and print PDF files.

Therefore, it would have been obvious to combine Abe and Ackerman with Hohensee to obtain the invention as specified in claims 18, 27, and 37.

Regarding claims 19 and 28, Hohensee further discloses an identification name assigning unit for assigning identification names to said objects stored in said storing unit, wherein said image forming unit forms images of said objects together with the

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identification names assigned to said objects by said identification name assigning unit (see Fig. 6, column 9 line 43-column 10 line 30, and column 11 lines 36-52).

Regarding claims 23 and 32, Abe further discloses a second judging unit for judging whether the amount of usage of said storing unit has exceeded a prescribed limit of usage, wherein said deleting unit is to delete said specific object from said storing unit when it is judged by said second judging unit that the amount of usage of said storing unit has exceeded the prescribed limit of usage (see paragraphs 13 and 14).

Regarding claims 24 and 33, Hohensee further discloses a deleting unit for deleting a specific object which has already been stored in said storing unit (see Figs. 2 and 6 and column 9 lines 58-63).

Regarding claims 25 and 34, Hohensee further discloses wherein said image forming unit forms images of said object in the order stored in said storing unit (see Fig. 6 and column 6 lines 18-34, PDF data is processed page by page and is transmitted to the printer on a page by page basis therefore it is processed and printed in such an order).

Regarding claims 26, 35, and 38, Hohensee further discloses wherein said document file is a PDF file (see Fig. 6 and column 9 lines 26-42).

7. Claims 20-22 and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hohensee, Ackerman and Abe as applied to claims 19 and 27 above, and further in view of Brown (US 2004/0216048).

Regarding claims 20 and 29, Hohensee discloses an identification name information generating unit for generating identification name information which is information on the identification names of said objects contained in each page of said document (see Fig. 6, column 9 line 43-column 10 line 30, and column 11 lines 36-52).

Hohensee, Ackerman and Abe do not disclose expressly wherein said image forming unit further forms images of the identification name information generated by said identification name information generating unit.

Brown discloses wherein said image forming unit further forms images of the identification name information generated by said identification name information generating unit (see paragraph 38).

Regarding claim 21 and 30, Hohensee, Ackerman and Abe do not disclose expressly wherein said identification name information contains table of contents which displays each page number of said document and the identification names of said objects contained in the page related to said page number.

Brown discloses wherein said identification name information contains table of contents which displays each page number of said document and the identification names of said objects contained in the page related to said page number (see paragraph 38).

Regarding claims 22 and 31, Hohensee, Ackerman and Abe do not disclose expressly wherein said identification name information contains page information which displays the identification names of said objects contained in a specific page of said document and the identification name of said specific page, and list of pages which

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displays each page number of said document and the identification name of a page related to said page number.

Brown discloses wherein said identification name information contains page information which displays the identification names of said objects contained in a specific page of said document and the identification name of said specific page, and list of pages which displays each page number of said document and the identification name of a page related to said page number (see paragraph 38).

Hohensee, Ackerman, Abe, & Brown are combinable because they are from the same field of endeavor, printing of document data.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the printing of a table of contents, which inherently contains page numbers associated with document data (object names), as described by Brown, with the system of Hohensee and Abe because table of contents are a well known and commonly used method of informing a user of the location of specific data to allow the user to easily locate desired information thereby saving the user time and effort.

Therefore, it would have been obvious to combine Brown with Hohensee, Ackerman and Abe to obtain the invention as specified in claims 20-22 and 29-31.

8. Claims 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hohensee and Ackerman as applied to claim 1 above, and further in view of U.S. Patent Application Publication No. 20020067502 to Hansen.

Regarding claim 39, Hohensee discloses wherein the PDF document is output in a normal order, successively from the first page toward the last page of the document file and the image forming unit forms images of said specific pages (see column 9 line 25-column 10 line 30 and column 11 lines 3-52).

Hohensee and Ackerman does not disclose expressly judging unit further judges whether or not the document file will be output in a normal order, successively from the first page toward the last page of the document file, or out of order, and the image forming unit forms images of said specific page after an additional judgment by the judging unit of whether the document file will be output in a normal order or out of order.

Hansen discloses judging unit further judges whether or not the document file will be output in a normal order, successively from the first page toward the last page of the document file, or out of order, and the image forming unit forms images of said specific page after an additional judgment by the judging unit of whether the document file will be output in a normal order or out of order (see Figs. 4 and 5 and paragraphs 4 lines 1-5, 13, 25, 31-33, 42, and 50, an entire document or groups of pages of a PDF file can be selected for printing based on metatags placed on certain pages by a user).

Regarding claim 40, Hohensee discloses whether a head page of the document file is ready for output (see column 9 line 25-column 10 line 30 and column 11 lines 3-52, a PDF has a particular structure including a header, body, cross reference table, and trailer and as such when printing of a PDF document is performed the head page must be ready for output to output the document in the correct order).

Hohensee and Ackerman do not disclose expressly normal order is specified, the judging unit judges whether a head page of the document file is ready for output, and if the normal order is not specified, the images of the specific page are formed by the image forming unit regardless of whether the head page of the document file is ready for output.

Hansen discloses normal order is specified, the judging unit judges whether a head page of the document file is ready for output, and if the normal order is not specified, the images of the specific page are formed by the image forming unit regardless of whether the head page of the document file is ready for output (see Figs. 4 and 5 and paragraphs 4 lines 1-5, 13, 25, 31-33, 42, and 50, an entire document or groups of pages of a PDF file can be selected for printing based on metatags placed on certain pages by a user).

Hohensee, Ackerman & Hansen are combinable because they are from the same field of endeavor, printing of document data such as PS or PDF.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the selection of some or all of the pages of a PDF document for printing, as described by Hansen, with the system of Hohensee and Ackerman.

The suggestion/motivation for doing so would have been to provide an operator flexibility in printing a desire document by allowing the option to divert certain pages to one printing device while other pages go to a different printing device.

Therefore, it would have been obvious to combine Hansen with Hohensee and Ackerman to obtain the invention as specified in claims 39 and 40.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark R. Milia whose telephone number is (571)272-7408. The examiner can normally be reached M-F 8:00am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached at (571) 272-7437. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Mark R. Milia
Examiner
Art Unit 2625

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Examiner, Art Unit 2625

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